AMENDMENTS TO THE SPECIFICATION

Please replace the present title with the following rewritten title:

COMPONENT OF A RADIATION DETECTOR COMPRISING A SUBSTRATE WITH POSITIONING STRUCTURE FOR A PHOTOELECTRIC ELEMENT ARRAY ~~RADIATION DETECTOR AND RADIATION DETECTION APPARATUS~~

Amend the specification by inserting before the first line the sentence:

This is a divisional of Application No. 10/109,871, filed April 1, 2002 and the entire disclosure(s) of the prior application(s), application number(s) 10/109,871 is considered part of the disclosure of the accompanying Divisional application and is hereby incorporated by reference..

Page 2, paragraph bridging pages 2 and 3:

A conventional radiation detector shown in Fig. 24A ("conventional art 1") is formed by arranging a plurality of single-slice one-dimensional photodiode arrays 102 in parallel on a substrate 101, arranging photodiodes 103 two-dimensionally, and mounting two-dimensional scintillator arrays each having scintillator elements corresponding to the photodiodes on the photodiodes 103, respectively. The first pad 104 of each photodiode 103 is electrically connected to the second pad 105 which is provided on the substrate 101 by a bonding wire 106. An electrical signal output from each photodiode 103 is propagated on a wiring provided on the substrate 101 and output to the outside of the substrate 101.

Page 30, first full paragraph:

To assemble the components into the state shown in Fig. 9, the components are sequentially assembled together not in a horizontal direction but in a vertical direction while placing the left side of Fig. 9 down. That is, a component (to be denoted by reference symbols 27A for the convenience of explanation) is fixedly overlapped with a substrate (to be denoted by reference symbols 28A for the convenience of explanation). The terminal 26 of the component 27A[[B]] thus overlapped with the substrate 28A is electrically connected to the wiring 29 provided on the substrate 28A by the bonding wire 30. A substrate 28B is fixedly overlapped with a substrate 28A. Thereafter, a component 27B[[C]] is fixedly overlapped with a component

27A substrate 28C and the terminal 26 of the component 27B[[C]] is electrically connected to the wiring 29 of the substrate 28B[[C]] by bonding wires 30. This operation is repeated to thereby form a two-dimensional radiation detection apparatus which employs a predetermined number of components.

Page 35, paragraph bridging pages 35 and 36:

Concrete example of the sixth embodiment will be explained below. Fig. 15A is a schematic cross-sectional view of a two-dimensional radiation detection apparatus in a state in which the apparatus is cut out in the array aligned direction of the scintillator arrays of radiation detectors. Fig. 15B is a schematic cross-sectional view of the two-dimensional radiation detection apparatus in a state in which the apparatus is cut out in a direction perpendicular to Fig. 15A. As shown in Figs. 15A and 15B, as each photodiode array 39, a 24-channel photodiode array (a length of 38.05 mm, a width of 6.0 mm, a thickness of 0.3 mm, a light receiving section size of 1.18 mm×3.8 mm, a channel pitch of 1.5875 mm) consisting of PIN type silicon photodiodes are used. As each scintillator array 40, an array made of $CdWO_4$ having a length of 38.05 mm, a width of 5.0 mm and a thickness of 2.19 mm (a channel size of 1.33 mm × 4.0 mm × 2.0 mm) is used. As each substrate 41, a glass epoxy substrate having a thickness of 0.2 mm is used. The wirings of each photodiode array are connected to those of the substrate 41 by bonding wires 42, respectively. As output terminals from the substrate wirings, a 25-channel connector 43 having a pitch of 1.27 mm is used. Among 25 channels, 24 channels are anode pins 44 and one channel is a cathode pin 45. Five 24-channel detector substrates are stacked, epoxy resin 46 is filled into the space sections thereof and protection cover plates 47 are provided on the sides on which no substrates are provided, respectively, thereby manufacturing a prototype 120-channel two-dimensional X-ray detector.

Page 54, first full paragraph:

It is preferable that the distance between the depth of the groove section 80 and the thickness of each photodiode array 69 is not less than 1 μm and not more than 100 μm. The reason of setting the difference to be not less than 1 μm is as follows. If the difference is too small, the difference in thickness among the individual photodiode arrays 69 cannot be absorbed.

The reason of setting the difference to be not more than 100 μm is as follows. If the difference is larger than 100 μm, the difference in height between the anode electrode 56 of each photodiodes included in the photodiode array 69 and each pad 68 arranged on the upper surface of the substrate 79 cannot be ignored, with the result that it is necessary to set the distance between the photodiode arrays 69 wide for wire bonding by the boding wires 67.